Administrator

February 27, 1984

2 MAR 1984

Honorable William J. Casey
Director
Central Intelligence Agency
Washington, DC 20505

Dear Bill:

When I was on the West Coast visiting with Guil Glazer, we had a most interesting discussion about U.S. and Israeli relationships. Guil suggested that I drop this pamphlet off to you.

With my career closing down very rapidly at GSA - three more days - it does not appear that we will be seeing each other in the near future. Therefore, I am mailing you the pamphlet and hope that you will take the time to read it.

I am neither agreeing nor disagreeing with its contents, but merely forwarding the information on to you as requested.

Sincerely,

for our use
a lunch

GERALD P. CARMEN
Administrator

Enclosure

 278

The Strategic Value of Israel

Steven J. Rosen

AIPAC Papers on U.S.-Israel Relations : 1

The Strategic Value of Israel

Steven J. Rosen

AIPAC Papers On U.S.–Israel Relations

Research for this paper completed under
the sponsorship of Guilford Glazer

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PREFACE

This study marks a new departure for AIPAC—the publication of a monograph series on issues concerning U.S.-Israel relations. This will enable us to provide greater depth of background and more detailed information on such issues as the potential for U.S.-Israel strategic cooperation, the military balance in the Middle East, economic issues of aid and trade, and media coverage of Arab-Israeli issues, in a format that will permit publication of current material on a schedule of weeks rather than months.

Publications in this series will be of two types: First, we will produce *annuals* on subjects of continuing interest, such as the military balance, Israel's aid requirements, and directories of key actors in American policy toward the Middle East. Second, we will publish individual *studies* on subjects of particular interest, such as major developments in Middle Eastern diplomacy, security problems of the West Bank and Gaza, and the potential for U.S. government procurement from Israel.

The editor of this enterprise is Steven Rosen, AIPAC's Director of Research and Information. Dr. Rosen recently joined this organization after four years as a Senior Analyst at the Rand Corporation where he served as Associate Director of the National Security Strategies Program. Previously, he was a professor in the Political Science faculties of Brandeis University, the University of Pittsburgh, and the Australian National University. Dr. Rosen will draw upon a larger and more experienced research staff to support the development of this unique series.

Thomas A. Dine
Executive Director
October, 1982

EXECUTIVE SUMMARY

Israel's strategic value derives primarily from four advantages:

(1) *Geostrategic position.* Israel is located midway between Europe and the Persian Gulf. From the point of view of U.S. defense planning, it has the potential to contribute in three theaters: the Gulf, the Mediterranean, and NATO's Southern and Central fronts. Compared to the continental United States, Israel is one-seventh the distance to the Gulf and one-half the distance to Germany.

(2) *Political stability.* While virtually every other friendly country of the region is subject to overthrow by coup or revolution or a drastic change of political orientation, Israel's stability is deeply rooted in sound democratic institutions.

(3) *Political reliability.* While policy orientations of other friendly states of the region could revert to hostility in the future, Israel's strategic interests and the values of its people are permanently aligned with those of the Free World. Deals made with certain Arab governments over the heads of their people can come unstuck if these people arise against their rulers, while our alliance with Israel is an alliance with the people of that country themselves.

(4) *Advanced society.* Israel is the one politically and technologically advanced country of the region.

Yet, these advantages, which have taken on particular importance since the loss of bases in Iran, have not been sufficient to prevent the systematic *exclusion* of Israel from U.S. defense planning for the Middle East and the Mediterranean, even while such less promising "allies" as Somalia and Oman are fawningly courted.

As a result, an undue reliance is being placed on basing U.S. "Rapid Deployment Forces" in the continental U.S., and to a lesser extent in "access arrangements" with unstable regional allies, simply to avoid Israel.

This paper quantitatively compares U.S. basing and these other allies with the currently excluded option of Israel in meeting one particular requirement of current defense planning: the need to move huge quantities of war materiel to the Persian Gulf region rapidly in the event of Soviet aggression there. "Prepositioning" of materiel in Israel is shown to have substantial objective advantages over the alternatives in terms of both force effectiveness and cost including the following:

- *Force Effectiveness.* Using half of America's airlift fleet, materiel for a mechanized division prepositioned in Israel could be redeployed to the Persian Gulf 66 days sooner than from the continental United States. Similarly, the time required to airlift to Germany would be reduced from 24 to 11 days.
- *Cost.* It would cost the U.S. over $9 billion in additional C-5 aircraft to achieve the same effect from bases in the U.S.—in terms of time required to deploy such a force—as compared to prepositioning in Israel.
- *Swing Force.* In terms of prepositioning a "swing force" for use either in the Gulf or Europe, Israel compares favorably with the other major prepositioning sites available to the U.S. Considerable savings in time and/or money could be achieved by prepositioning in Israel rather than in sites presently planned for the RDF.

Overall, in an honest comparison, Israel offers substantial strategic advantages. Yet the United States has chosen to bypass Israel in favor of an excessive reliance on strategic airlift from the continental U.S., which is slow and expensive, and alliances with unstable local governments of dubious reliability. This virtual exclusion of Israel from U.S. defense planning is, implicitly, a sacrifice of the objective American national interest to appease rejectionist Arab opinion. It is a sacrifice with a substantial hidden cost to the U.S. taxpayer, and it results in a less effective system of defense at a higher cost.

Strategic Value of Israel

The debate over how best to defend the Persian Gulf and its oil against the possibility of Soviet aggression is warming up and, as it does, it becomes increasingly clear that an issue as simple as geography is at the heart of the problem. The Soviet Union borders on Iran and is within 1,000 miles of the main oilfields of the Middle East, while the distance from the United States is about 9,000 miles by air and considerably longer by sea. Moreover, unlike Europe, the Far East, and Southeast Asia, there is no intact U.S. military basing structure to provide support in the event of a conflict. However, since the fall of the Shah, no nation of the Gulf region is prepared to extend to the United States full-scale basing privileges. The closest U.S. base, on the Indian Ocean island of Diego Garcia, is still 3,000 miles from the assumed locus of conflict, and this base is in any case limited in scale by the smallness of the island.

These simple facts create quite a problem for U.S. planners. A Soviet standing army of perhaps fourteen divisions sits astride the region across the border with Iran, in addition to the force of nearly a hundred thousand stationed in Afghanistan, while a single American division of about 25,000 would, if airlifted from the United States with its 70,000 tons of equipment, take about four weeks to get there using all U.S. airlift resources (and over twice as long using half the available airlift). It might well be a case of "too little too late," and if the Soviets perceived this in advance, they might be tempted to exploit their advantage.

Both the defense of the region and deterrence of a Soviet attack therefore require energetic remedial measures to enhance our "projection" capability. In part, this may take the form of expanding our small fleet of airlift and sealift vessels, procuring such items as additional C-5s or CXs. But at a $60 million program unit cost, there are severe limits on the number of strategic air transporters that can be procured. A second solution is to "lighten the load" to be lifted by developing lighter armored forces, thereby reducing the number of flights ("sorties") and transporters needed. But this would, at

best, result in a saving of perhaps 20 percent in terms of time or the required size of the lift fleet. While there is much to be said for both measures, additional solutions clearly are required.

The most obvious solution is to have the equipment in the theater of conflict, or at least near it, when you need it, rather than moving it only after an aggression begins. By moving the heavy equipment to "prepositioning sites" in peacetime, and flying in just the men to "marry up" with the equipment if a conflict contingency develops, considerable time can be saved. The prepositioned equipment poses no threat in peacetime, but serves as a notice to the Soviets that a rapid response to aggression is possible, and thereby enhances the deterrent threat to promote the stability of the region.

With this in mind, the Carter Administration negotiated a set of "access arrangements" to permit prepositioning in Oman, Somalia, Egypt, and Kenya on a limited scale, and the Reagan Administration has submitted to Congress appropriation requests for funding to flesh out these arrangements. There are, however, several problems with the prepositioning sites negotiated to date. Kenya is over 2,500 miles from assumed conflict areas by the most direct route, and Somalia is about 1,600. Somalia is demanding a king's ransom in aid in exchange for access, and has problems of political stability. Neighboring Ethiopia is a virtual colony of the Soviet Union, and has openly threatened to employ its air force against U.S. facilities in Somalia (with which Ethiopia is at war). As if this weren't enough, Somalia and Kenya are antagonists, and Kenya is informally allied with Ethiopia against Somalia. Kenya objects to U.S. cooperation with Somalia. Neither Kenya nor Somalia is in a position to provide an air defense umbrella for the security of American equipment and personnel against air attack, so anything prepositioned at these locations will be vulnerable unless the scarce air defense assets of the United States are devoted to the task and permitted by the host government to operate.

Oman is the best site of all in terms of distance, lying at the mouth of the Persian Gulf, but as an access opportunity it suffers from some of the problems already mentioned. It is within strike range of Soviet aircraft stationed in Afghanistan as well as the increasingly sophisticated air force of South Yemen (another Soviet colony), yet the host government cannot provide air defense. This alone will limit the amount of materiel the United States can put at risk in a vulnerable environment. In addition, the Omani government, not wishing to be seen as a "cat's paw" of a superpower in the region, intends to limit the conditions under which facilities can be used by United States forces. For example, the Sultan Qaboos was so outraged by the reported use of Omani facilities on Masirah Island in support of the (failed) Iran hostage rescue mission that he threatened to withdraw all American privileges. While the latter did not happen, it is clear that American access in Oman will be less

than 100 percent reliable over time under the present government. Nor is the survival of the Omani regime a foregone conclusion, although there are few signs of instability at the moment. In addition, Masirah Island and the other Omani sites reported in the press are among the hottest and most inhospitable places on the planet Earth, and the effects on U.S. armed forces personnel retention could be a real problem.

It is also worth noting that Oman, while it is close to the Gulf, is quite distant from Europe (as are Somalia, Kenya, and Diego Garcia). This means that equipment stationed there is dedicated to Persian Gulf contingencies but poorly located for NATO. Ideally, prepositioning sites would be suited to a "swing force" that could be deployed *either* to Europe or the Gulf, to limit the adverse impact of Persian Gulf security arrangements on the already precarious NATO alliance capability.

In these terms, Egypt has a considerable advantage over Kenya, Somalia, Oman, and Diego Garcia. For example, the distance from Ras Banas, Egypt, to Munich is about half that of Masirah, Oman. Egypt can also provide general air defense against any adversary but Israel, and can provide security against other forms of attack on the facilities that have been discussed. Moreover, Egypt is forthright in its support for a strengthening of U.S. capability in the region, and clearly intends to cooperate in plans to build the Rapid Deployment Force.

Yet, even the sites in Egypt raise problems. Cairo's isolation in the Arab world is unnatural, and should the current or a future Egyptian government seek to rejoin its historic allies, the price might include a weakening of the alliance with Washington. This might come, for example, now that Egypt has repossessed the Sinai in April 1982, under the terms of the peace treaty with Israel. Moreover, the evolution of the domestic political situation in Egypt could lead to a change of policy or even a change of government. After the bitter experience with Britain and then the USSR, Egyptians have a considerable antipathy to foreign troops and equipment on their soil. Egypt was one of the founders of the nonaligned movement, and foreign installations by whatever name are bound to become a target for Arab nationalist "Third Worldist" criticism of the regime. While, at the present time, the Egyptian/American alliance seems secure, Egyptian policy five and ten years hence is unpredictable.

Given this array of problems and reasons to worry, American planners are obligated to "spread the risk" by distributing American commitments among the access sites. Of the sites discussed, Egypt emerges as the "dominant solution," but conditions there too will limit the scale of American military investment. Basically, something more is needed.

Israel as a Prepositioning Site

Given the problems of each of the sites already explored, attention is beginning to turn to Israel. Israel offers several distinct advantages as a "stepping-stone" access site, which, taken together, comprise an attractive package:

1. *Location.* The distance from Israel to the Gulf is less than one-seventh that from the U.S. It is also half the distance of Diego Garcia, and closer than Kenya, Somalia, or Turkey (assuming, in the last case, that overflight of Syria, Iraq, and Iran is excluded). At the same time, it is half the distance to Europe (Munich) compared to the East Coast of the United States, and also about half the distance to Europe compared to Diego Garcia, Oman, Somalia, and Kenya. Of states willing to provide regional access for the RDF, only Egypt is competitive as a location for a "swing force" that could be sent either to Europe or the Gulf.

2. *Political Stability.* While the future political structures and policy orientations of Oman, Somalia, Kenya, Egypt, and Turkey are subject to radical change, the basic political structure and policy of Israel are stable and predictable as they affect that country's policy toward regional security. Virtually all Israeli leaders in the major parties support a strengthening of the United States role in the region, an enhancement of U.S. capability to deter and, if need be, defeat Soviet aggression, and an enhancement of U.S. force projection capabilities to support these objectives. The leadership of both major Israeli parties has forthrightly endorsed the provision of strategic access arrangements to the United States under appropriate conditions. Sites in Israel would be intrinsically less vulnerable to revolutions, coups, and domestic disorders.

3. *Political Reliability.* No sovereign nation in the modern world will extend basing privileges to a foreign power completely without restriction. But the political limitations that would be imposed in the Israeli case probably would be less severe than those on which Oman, Egypt, Somalia, and Kenya will insist, for the simple reason that there is a closer congruence between Israel's own interests and those of the United States as regards force projection contingencies. If, for example, an Iraqi threat to Kuwait or Iran called for an American response, the policies of Oman and Egypt could be limited by inter-Arab politics, while Israel would, in almost all scenarios, find its interests aligned with those of the U.S. The contrast might be still more pronounced in a European scenario, from which the Arab states might wish to divorce themselves while Israel, given its strategic position, could not. While there are differences between the Israeli and American policies in the local

diplomatic arena, their postures in regional strategic military affairs are generally in agreement.

4. *Air Defense.* U.S. materiel prepositioned in many states of the region could be subject to conventional and guerilla attacks, yet few of the host nations have the capability to provide a secure defense umbrella. Israel is a clear exception. The primary mission of the Israeli Air Force is to defend that nation's own air space, and the IAF's mastery of the skies is almost uncontested. While the United States might have to provide its own air defense in such locations as Masirah or Berbera, allocating scarce F-15 wings or I-Hawk SAM batteries, security of "prepo" against air attack in Israel would be provided implicitly by the host government. The same applies to security against large-scale guerilla operations, which the Israelis have brought almost completely under control.

While these differences between Israel and other sites, taken together, might be regarded as a considerable, even commanding advantage, there has been comparatively little American interest in strategic cooperation with Israel until recently. The notion of Israel as a strategic asset has been a subject of considerable interest in American Jewish and Israeli circles, but until recently it has been regarded with official indifference if not contempt, particularly by the Carter Administration. Indeed, it is said that the name "Israel" was not, until recently, permitted even to appear in official exploratory discussions of prospective access sites, and that, having been rejected from the start as a serious candidate for the regional security system, Israel's potential contribution was not studied by Carter Administration officials in any systematic way.

The Reagan Administration brings to the issue a different perspective. Repeatedly during the 1980 presidential campaign, the Republican candidate called attention to Israel as a concrete strategic asset and ally, and the Administration is reported to have a serious interest in exploring potential forms of strategic cooperation with the government of Israel.

Reagan is of course aware that the Arabs (with the possible exception of Egypt) do not look kindly upon U.S.-Israel cooperation, but, unlike his predecessor, he does not take this as an absolute limit to U.S. freedom of action. Since the very founding of the Jewish state, the U.S. has played both sides of the street successfully (in spite of heckling from certain elements in the Washington bureaucracy who endlessly warned that it couldn't be done). It is probably even the case that the U.S. has had more rather than less influence with the Arabs exactly because it also has had (most of the time) influence with Israel too. Ironically, Arab opinion already takes it as given that the U.S. is in cahoots with Israel, which Washington supports with considerable economic and military aid. The incremental diplomatic cost of expanded strategic cooperation could, for this very reason, be minimal if the

problem were managed intelligently during the transitional period.

Still, there will be political costs to be measured against strategic benefits. It is worthwhile, therefore, to assess in closer detail the strategic value of Israel, to quantify the military advantages that should be compared to any political disadvantages. What follows, then, is a more detailed statistical excursion to compare Israel with other prepositioning sites in military and economic terms, to quantify the value of cooperation or the "opportunity cost" of non-cooperation, in the expectation that this may provide a criterion by which to assess future policy.

Comparing Deployment Times

For the military planner, the central consideration of any prospective arrangement affecting the Rapid Deployment Force is its impact on force effectiveness. In the case of a prospective access site, this means that the central measure of effectiveness is the contribution that a "steppingstone" can make to shorten the time that it takes to deliver and deploy forces to assumed conflict locations, by comparison with sending forces from the continental United States (CONUS) or from other regional access sites.

The methodology by which such comparisons are made is complex, and includes the following factors:

1. distance;
2. the number and types of transport aircraft available;
3. the portion of this lift fleet assumed to be available for a given contingency;
4. lift capacity in terms of weight and bulk;
5. utilization factors, sortie rates, speed, and productivity; and
6. the weight and bulk of the materiel to be lifted.

These factors can be estimated from such public sources as the Defense Marketing Service databook, *Rapid Deployment Force* (Greenwich, Connecticut, DMS, 1980), on the basis given in the appendix to this paper. Assuming that the equipment for a mechanized infantry division is to be lifted from prepositioning sites to Dhahran, Saudi Arabia (from which they would move overland to participate in a Persian Gulf conflict), and that half of the available U.S. transporters were used for a Persian Gulf scenario (the other

half being held in reserve for European contingencies), prepositioning in Israel compares to prepositioning at other sites or lift from the continental U.S. as follows:

Table 1

Airlift to the Persian Gulf (Dhahran)

(using half of strategic lift)

From	Days to Transport One Mechanized Division
United States	77 days
Israel (Tel Aviv)	11 days
Diego Garcia	27 days
Somalia (Berbera)	14 days
Kenya (Mombasa)	22 days
Oman (Masirah)	8 days
Egypt (Ras Banas)	10 days
Turkey (Izmir) (No overflight of Iraq, Syria, or Iran)	17 days

The advantage of prepositioning in Israel is substantial compared to sending forces from the U.S.; the first whole division would get to the Gulf 2-1/2 months earlier! Forces from Diego Garcia or Kenya would take twice as long to arrive, and forces from Turkey 50 percent more time (assuming that overflight of radical countries is excluded). Only Oman and Egypt offer shorter deployment times, and in both cases the advantage is marginal.

If a war erupted in Europe instead of the Gulf, major U.S. reinforcement would be required for NATO to hold the line against the vastly larger Warsaw Pact armies. It could, in such a contingency, be necessary to lift materiel prepositioned for Persian Gulf contingencies to Europe instead of Dhahran. Assuming that the equipment for a mechanized infantry division were to be lifted from these prepositioning sites to Munich, Germany, and that all the available U.S. transporters were used, Israel compares to the other sites as follows:

Table 2

Airlift to Europe (Munich)

(using all of strategic lift)

From	Days to Transport One Mechanized Division
United States	24 days
Israel (Tel Aviv)	11 days
Diego Garcia	29 days
Somalia	20 days
Kenya	23 days
Oman	20 days
Egypt	12 days
Turkey	8 days

Forces prepositioned in Israel could be in Europe in half the time it would take those from the continental United States to arrive, and Israel is closer than any of the other regional prepositioning sites except Turkey (which is, of course, a member of NATO). It is also worth noting that Diego Garcia, which is the anchor of the RDF prepositioning system, is even further from Europe than the continental United States. Forces prepositioned in Diego Garcia, Somalia, Kenya or Oman are in effect dedicated to Persian Gulf contingencies, while Israel, Egypt, and Turkey are superior as sites for a "swing force" suited to either Gulf or European scenarios.

In addition to the swing force concept, Egypt, Israel, and Turkey also have importance for Mediterranean contingencies, from which Diego Garcia, Oman, Somalia, and Kenya are remote. The "beefing up" of our navy in the Indian Ocean has been accomplished partly at the expense of the Sixth Fleet in the Mediterranean, and any comparison of allocation of U.S. forces to alternative access sites should also take Mediterranean conflict into account. This comparison will be developed in greater detail in a subsequent study.

Comparisons in Terms of Cost

So far we have compared prepositioning sites exclusively in terms of military effectiveness and deployment time. But in the real world of force

planning, choices are constrained by budgetary impact as well. For example, if the cost of deploying a given unit to a particular location within a required time can be reduced, the budgetary resources "liberated" can be used to strengthen other elements of the overall force structure. Conversely, spending more to achieve a given objective implicitly weakens other elements of the force structure.

How, then, would Israel compare to other access sites in terms of cost, holding military effectiveness constant? One way to make such a comparison is to compare the direct costs of the airlifts of equipment for one mechanized infantry division to Dhahran or Munich, as above, on the simple principle that miles translate into airfleet sorties which cost money (see Appendix). Table 3 gives the direct costs for the airlifts enumerated in Tables 1 and 2:

Table 3

Direct Costs of Airlifting One Mechanized Division

(as in Tables 1 and 2)

From	To Dhahran	To Munich
United States	$391 million	$247 million
Israel	63	125
Diego Garcia	138	294
Somalia	76	198
Kenya	124	232
Oman	43	208
Egypt	54	140
Turkey	99	87

Combining these comparisons (i.e., using the imaginary case in which one division was lifted to Dhahran and a second division to Munich), a "swing force" would cost a half billion dollars less to lift from Israel compared to the U.S.; $350 million less than Diego Garcia; $170 million less than Kenya; $90 million less than Somalia; and $60 million less than Oman. Again, only Egypt and Turkey are competitive in terms of cost, both being essentially identical to Israel.

But comparison of cost on this basis ignores a critical dimension of effectiveness, which is the time required to deploy. The very purpose of an airlift is to reduce the time that otherwise would be required to move forces at less expense but more slowly by sea. Indeed, even airlift deployment times like those given in Tables 1 and 2 are considered much too slow by officials responsible for U.S. national security planning, and procurement of additional C-5s or CXs is considered essential to the RDF.

One way to correct for deployment time in our comparisons, then, is to take into account the number of aircraft that would have to be procured to meet a given lift time requirement from the various prepositioning sites. To permit such a comparison, let us take as our deployment time standard the times required to lift the equipment for a mechanized division from Israel to Dhahran (11 days) and Munich (also 11 days), and take as the unit of cost the number of additional (or fewer) C-5As that would need to be procured to match this time from the other sites. The number of aircraft derived from the calculations in the appendix, is as follows:

Table 4

Number of C-5As Required to Match Deployment Time from Israel

To Dhahran		
from	United States	168.37 more
	Diego Garcia	39.00
	Berbera	6.68
	Mombasa	30.67
	Izmir	17.84
	Masirah	10.06 fewer
	Ras Banas	4.48 fewer
To Munich		
from	United States	69.28 more
	Diego Garcia	89.88
	Berbera	40.66
	Mombasa	57.82
	Masirah	45.81
	Ras Banas	7.44
	Izmir	20.05 fewer

Using the $56,000,000 program unit cost of the C-5A as a standard, equalization of deployment times will reveal considerable "hidden" cost differences between the access sites, differences much greater than the direct costs of the lifts ignoring time (Table 3) or the costs of facilities on the ground in the host countries (see Appendix). Table 5 compares the C-5A procurement costs to make it possible to lift one mechanized division to Dhahran in 11 days from the various sites.

Table 5

Additional Cost (Savings) of Capability to Deploy Mechanized Division to Dhahran in 11 Days

(as in Table 4)

From	$ Millions
United States	$9,429 million
Israel	-0-
Diego Garcia	2,185
Somalia	374
Kenya	1,718
Turkey	999
Oman	(563) savings
Egypt	(251) savings

By this measure, prepositioning in Israel is the equivalent of 168 C-5As or almost ten billion dollars compared to sending forces to the Gulf in the same time from the continental United States. Diego Garcia, Somalia, Kenya, and Turkey would also cost substantially more.

Only Oman and Egypt are superior to Israel for prepositioning in terms of cost to deploy to Dhahran in 11 days. If we add the comparison to Munich, on the other hand (see Table 4 and Appendix), Turkey is superior but Egypt would require 7 additional C-5s ($417 million) and Oman 46 ($2.6 billion). Finally, on a combined cost basis, Israel emerges as the least expensive alternative for a "swing force" if the cost of C-5s for both Munich and Dahran is taken as the criterion, since in the three cases where there is an additional expense to one location and a saving to the other, the additional expense is greater.

Conclusions

Israel offers clear and substantial advantages as a prepositioning site for U.S. projection forces, in terms of both force effectiveness and cost. Many of these advantages derive from its geographic position at the crossroads of the Mediterranean and Southwest Asian strategic zones.

There is more political support for an American presence among the Israeli public than in any other state of the region, and more support among the competing political elites. A U.S. decision to preposition materiel in Israel could be taken with a higher degree of confidence that access would in fact be available in a conflict contingency some years down the road than in most of the other host nations now under discussion. In addition, Israel is in a position to provide a security umbrella for prepositioned materiel, while in some of the other sites such security would have to be provided by U.S. forces. Overall, prepositioning in Israel would be a useful complement to other access arrangements, and would strengthen overall force effectiveness at substantially lower cost than other alternatives.

It is true that prepositioning in Israel also will entail political costs, in that certain of the Arab states will be strongly opposed. But these costs are containable if handled firmly, particularly during the transitional period. From the Arab point of view, the principal objection is surely to United States military and economic aid to the government of Israel, aid which will continue regardless of the degree to which Israel is developed as a regional strategic asset. Moreover, Arab publics already assume that the United States is engaged in a strategic alliance with Israel; the concept is more novel to Americans than to the peoples of the region.

In any case, the possibility of prepositioning in Israel should not be rejected *a priori,* without a careful accounting of costs and benefits. If, on balance, a decision is taken not to develop the strategic benefits of cooperation with Israel, it should, at the minimum, be taken with a clear-eyed awareness of the strategic and economic advantages that are being foregone.

Appendix

Basis of calculations, additional data, and sources

1. The following inventory of primary aircraft available was used:
   70 C5A
   234 C141
   234 C130
   Any airlift under 3,000 miles is assumed to utilize C130 aircraft as well as C5A and C141 aircraft.
2. A down factor of 15% was applied to the above numbers and then: (1) all available aircraft were employed in the Munich lift; (2) 50% of all available aircraft were employed in the Persian Gulf lift. The number of aircraft employed in any actual airlift would be highly scenario dependent, the above usage rate was chosen to provide a means for comparison.
3. All figures assume transport of all cargo from the on-loading point stipulated. The U.S. figures do not allow for a possible mix of CONUS and POMCUS locations, nor do any others.
4. After transporting all outsize cargo, C5As are assumed to continue to transport bulk and oversize cargo until the lift is completed.
5. No limitations have been placed on run-through capability of either the on-loading or off-loading point. It is assumed that any location chosen to serve as a future site will be built up as necessary to permit operations. It is also assumed that no limitation has been placed for national security reasons. In the 1973 lift to Israel, the Secretary of Defense limited the number of aircraft permitted on the ground at Tel Aviv at any given time for security reasons. These figures do not allow for such a limitation.
6. Mileage has been calculated as the most direct flight with overflight restrictions as follows: no overflight of the Soviet Union or any Soviet bloc state; no overflight of a Soviet controlled or allied state; no overflight of Iraq, Iran, Libya, Syria, Ethiopia, or Yemen.
7. Overflight of Jordan and Saudi Arabia is permitted on the assumption that regardless of the originating point, if Saudi Arabia is permitting

off-loading in Dhahran, overflight will also be permitted.

8. Non-U.S. prepositioning sites assume the first leg of the airlift originates on the U.S. East Coast, and that airlift aircraft are based in the U.S.
9. The divisional tonnage figures represent a division and support as follows:

Airborne	Outsize	13,775	
	Bulk and Oversize	48,300	
		62,075	tons
Mechanized	Outsize	34,655	
	Bulk and Oversize	60,948	
		95,603	tons
Infantry	Outsize	20,942	
	Bulk and Oversize	56,399	
		77,341	tons

The figures for an armored division were not calculated. It is assumed (1) this division would be transported by sea due to its extreme weight; and (2) this division would be the last division transported.

The source for these tonnage figures is Defense Marketing Service, *Rapid Deployment Force,* 1980.

10. The cost figures given are based on the peace-time operating cost per flying hour for each aircraft. The following figures were used:

C5A	$6,793/hour
C141	2,087/hour
C130	763/hour

It is acknowledged that in an actual lift scenario there would be additional ground support expenditures which are not included in the given figures.

The source for these figures is *Hearings Before a Subcommittee of the Committee on Appropriations,* House of Representatives, 96th Congress, 2nd Session, Part 8, *Department of Defense Appropriations for 1981,* p. 418.

The following formula was used to compute airlift capability in short tons/day*:

$$L = \frac{N \times U \times S \times R}{D} \times P$$

where:

L = lift capacity for a particular force, for a particular aircraft

N = the number of aircraft utilized

U = utilization rate of aircraft; utilization rate is determined by maintenance requirements, aircrew availability, and the fleet-wide average of the number of hours per day that each type of aircraft can fly

S = block-in speed of the aircraft; averaging the cruising speed with the slower take-off and landing speeds

R = productivity factor for the aircraft, allowing for empty return

D = distance travelled in airlift

P = payload of aircraft in cargo of specified force

The following factors were used for the specific aircraft and specified divisions.

C5A
U = 12.5
S = 428 mi/hour
R = .445
P = 54.6 Airborne
68.5 Mechanized and Infantry

C141
U = 12.5
S = 407
R = .445
P = 18.07 Airborne
27.04 Mechanized
23.14 Infantry

NOTE: the calculations assumed the C141B aircraft was used. This craft has been stretched to permit greater capacity before "cubing out". Actual figures for the C141B are not yet available; the Air Force estimate of a 30% increase cited in *Hearings Before the Subcommittee of the Committee on Appropriations,* House of Representatives, 96th Congress, 2nd Session, *Department of Defense Appropriations for 1981,* Part 6, p. 413, was used. Unofficial reports indicate the C141 capacity has increased by more than 30%.

C130
U = 8.0
S = 260 mi/hour
R = .445
P = 13.8 all divisions

*source for the formula and factors is Defense Marketing Service, *Rapid Deployment Force, 1980.*

Table 1

Airlift to the Persian Gulf (Dhahran)

From	Miles	Days to Transport	Cost (M$)
United States (East Coast)	8,739		
Airborne Division		69.38	350.0
Mechanized Division		77.44	390.7
Infantry Division		68.17	343.9
Israel (Tel Aviv)	1,284		
Airborne Division		9.77	55.2
Mechanized Division		11.18	63.2
Infantry Division		9.88	55.8
Diego Garcia	3,012		
Airborne Division		24.52	123.7
Mechanized Division		27.30	137.7
Infantry Division		24.11	121.6
Somalia (Berbera)	1,580		
Airborne Division		11.79	66.6
Mechanized Division		13.52	76.4
Infantry Division		11.92	67.3
Kenya (Mombasa)	2,642		
Airborne Division		19.05	107.6
Mechanized Division		21.95	124.0
Infantry Division		19.27	108.9
Oman (Masirah)	839		
Airborne Division		6.73	38.0
Mechanized Division		7.65	43.2
Infantry Division		6.80	38.4
Egypt (Ras Banas)	1,086		
Airborne Division		8.41	47.5
Mechanized Division		9.61	54.3
Infantry Division		8.50	48.0
Turkey (Izmir)	2,074		
Airborne Division		15.17	85.7
Mechanized Division		17.45	98.6
Infantry Division		14.30	80.8

Table 2
Airlift to Munich

From	Miles	Days to Transport	Cost (M$)
United States (East Coast)	5,530		
Airborne Division		21.76	221.4
Mechanized Division		24.31	247.4
Infantry Division		21.38	217.5
Israel (Tel Aviv)	2,543		
Airborne Division		9.62	109.5
Mechanized Division		11.01	125.3
Infantry Division		9.73	110.8
Diego Garcia	6,418		
Airborne Division		25.88	263.3
Mechanized Division		28.84	293.5
Infantry Division		25.44	258.9
Somalia (Berbera)	4,296		
Airborne Division		17.52	178.3
Mechanized Division		19.50	198.4
Infantry Division		17.23	175.3
Kenya (Mombasa)	5,036		
Airborne Division		20.44	208.0
Mechanized Division		22.75	231.5
Infantry Division		20.09	204.4
Oman (Masirah)	4,518		
Airborne Division		18.40	187.2
Mechanized Division		20.48	208.4
Infantry Division		18.09	184.1
Egypt (Ras Banas)	2,864		
Airborne Division		10.71	121.9
Mechanized Division		12.27	139.7
Infantry Division		10.83	123.3
Turkey (Izmir)	1,679		
Airborne Division		6.69	76.2
Mechanized Division		7.61	86.6
Infantry Division		6.76	77.0

Appendix

Table 3

Cost of Equalizing All Options

To Dhahran			
	from	United States	$9,428.72 M cost
		Diego Garcia	2,185.12
		Berbera	374.08
		Mombasa	1,717.52
		Izmir	999.04
		Masirah	$ 563.36 M savings
		Ras Banas	250.88
To Munich			
	from	United States	$3,879.68 M cost
		Diego Garcia	5,033.28
		Berbera	2,276.96
		Mombasa	3,237.92
		Masirah	2,565.36
		Ras Banas	416.64
		Izmir	$1,122.80 M savings

Footnotes:

The program unit cost of $56M for the C5A aircraft is used. The unit fly-away cost cited in the same source is $29.7 M. Source: Defense Marketing Service.

The cost for the C5A was used on the assumption that any actual procurement in any number, would be C5A aircraft. The CX was not used because it is still in the developmental stage.

Appendix

Table 4

Construction Costs for Basing Options

Site	FY 81	FY 82	FY 83	Program Total
Diego Garcia		317.6		317.6
Somalia	.4	24.0		24.4
Kenya	19.1	26.0		45.1
Oman	85.5	81.5	44.6	211.6
Egypt		148.5		148.5

Turkey: no figures available
Israel: no figures available

Source: DD 1391, Military Construction Project Data

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Israel and the U.S. Air Force

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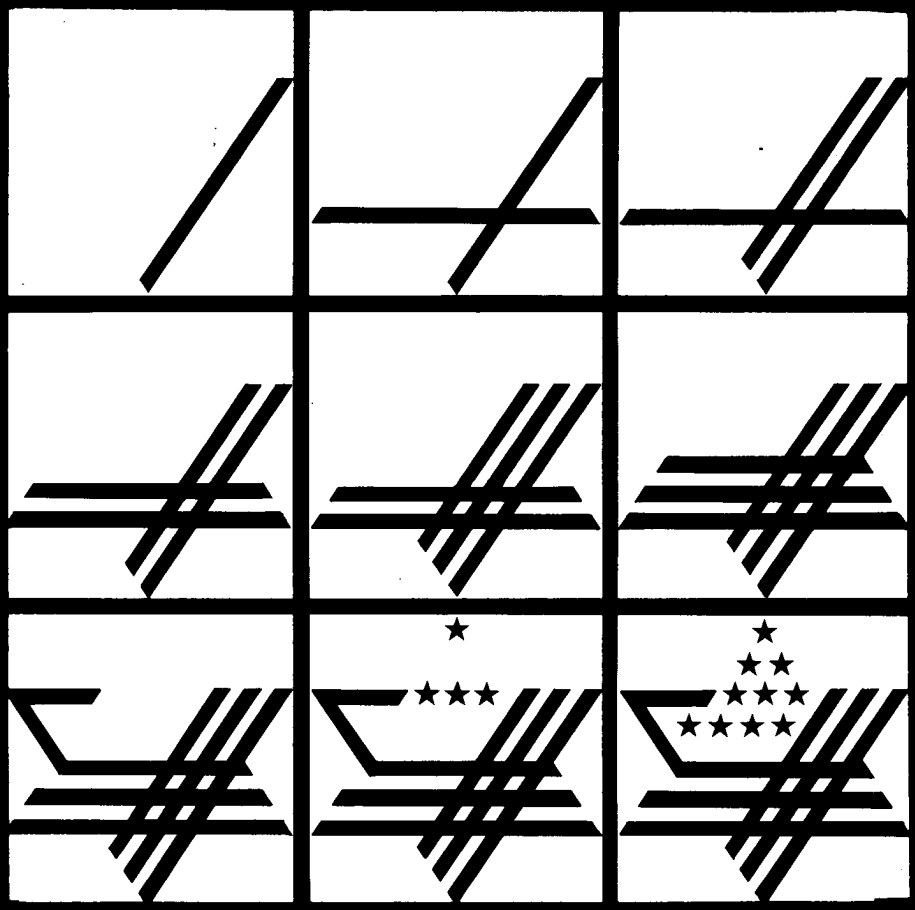

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PREFACE

This is the second publication of AIPAC's new monograph series on U.S.-Israel relations, and also the second part of a thematic six-volume "series within the series" on the specific issue of the potential for enhanced strategic cooperation between the United States and Israel. The first volume on this theme, *The Strategic Value of Israel,* was devoted largely to the advantages of prepositioning U.S. *Army* materiel at Israeli facilities for possible use in a Middle Eastern crisis. The current volume deals with various forms of cooperation between Israel and the U.S. *Air Force,* and it will be followed shortly by a parallel third study on the value of Israeli assistance to the U.S. *Navy.* The fourth volume will deal with the potential use of Israeli *medical* facilities to treat U.S. casualties in the event that it is necessary to involve the Rapid Deployment Force in a Persian Gulf conflict. The fifth will deal with the potential of Israeli defense and aerospace contractors to provide *overhaul and maintenance services* for U.S. armed forces equipment. The sixth and final paper on the theme of strategic cooperation will deal with the *political* and *diplomatic* aspects of managing Middle East policy to derive the maximum strategic advantage for the United States.

AIPAC's series of studies ranges beyond the theme of strategic cooperation. Other papers soon to be published include topics such as anti-Israel propaganda in the United States, media coverage in Lebanon, and the impact of territorial issues on Israeli security. But we believe that the strategic importance of Israel to the United States is not well understood, and the series of which this paper is a part is intended to build the foundation for a clearer appreciation of this central issue in U.S. Middle East policy.

Publications in this series draw upon the expertise of scholars and professional analysts. Dr. Martin Indyk is a Senior Lecturer at Macquarie University, Australia, specializing in the Middle East, and is a consultant to Near East Research, Inc. He formerly served as a senior Middle East analyst in the Office of National Assessments of the Government of Australia. Charles Kupchan is a graduate student in political sciences at Oxford University doing advanced research on the Rapid Deployment Force; he is a graduate of Harvard University. Dr. Steven J. Rosen is AIPAC's Director of Research and Information, and previously served as a senior analyst of Middle Eastern political/military affairs at the Rand Corporation after a decade of teaching at Brandeis University, the University of Pittsburgh, and the Australian National University.

Thomas A. Dine
Executive Director
February 1983

Executive Summary

While the U.S. Air Force has not been permitted, for political reasons, to exploit fully the potential for strategic-cooperation with Israel, Israeli assistance has been significant in a number of areas, including:

- providing combat data on the performance of American and Soviet equipment in 1973 and in other wars, which significantly affects USAF expenditures of $2 billion per year on conventional forces research and development and $20 billion on nonnuclear procurement
- demonstrating the vulnerability of Soviet SAMs and interceptors in Lebanon, which may force the USSR to divert large sums from force expansion to force renovation and replacement
- contracting to overhaul and maintain engines and components for USAF aircraft in some of the world's most advanced facilities, helping to raise USAF operational readiness
- exchanging intelligence about Soviet and Soviet-allied forces in the Middle East and the Mediterranean

However, the potential for future cooperation is considerably greater, including:

- use of Israeli ports and airfields as offered by Prime Minister Begin, access to which is much less likely to be denied abruptly than facilities in countries like Oman and Somalia
- providing deep cover for USAF military transport aircraft, which could be vulnerable to attack while moving vital equipment and supplies through the Mediterranean and the Middle East in a crisis
- providing secure and reliable storage facilities for USAF fuel and supplies which must be prepositioned in peacetime to support rapid deployment of large numbers of tactical aircraft in a crisis
- substantially greater use of Israeli contract maintenance to improve readiness at reduced costs.

Use of Israeli facilities could be particularly important to USAF as part of an overall Middle Eastern basing mix, for which prudent planning requires at least one facility as a reliable and secure "fall-back" position in the event that access to other, less reliable sites is denied.

Curiously, the failure of the Air Force to exploit these opportunities seems to have more to do with political objections than with defense effectiveness issues per se. Specifically, some fear that closer relations with Israel would impair ties with Arab countries, and would be inappropriate because some of the policies of Israel differ from those of the United States. But these objections, which seem to have great intuitive appeal in some quarters, have not been subjected to careful analysis. For example,

- close relations with Israel has not in the past prevented increased American influence in the Arab world, and may have enhanced that influence;
- our relationship with Israel is based on an enduring affinity between the peoples of the two countries, and any agreement between the two countries is likely to be respected by any future Israeli government;
- American arrangements with other countries in the region are often made with unpopular elites, who may not remain in power or who may feel forced to abrogate agreements with the United States during periods of crisis;
- while there may be differences between the United States and Israel, the two countries have much more in common than exists between the U.S. and Oman, Somalia, or Saudi Arabia, not to mention Korea, Pakistan, and the Philippines. It is not necessary for a reliable ally to agree on every point.

At a minimum, the potential costs and benefits of enhanced strategic cooperation with Israel need to be systematically compared with other policy options available to the United States, before arriving at a final judgment. This has not been done.

Table of Contents

Section I
Areas of Israeli Assistance to the U.S. Air Force

The purpose of this paper is to examine the potential contribution of Israel to the missions and requirements of the United States Air Force (USAF). Defending American interests in the Middle East and the Persian Gulf has not been a major concern of USAF since World War II. However, recent events in the region—particularly the fall of the Shah of Iran and the Soviet invasion of Afghanistan—have caused a reordering of priorities and USAF must now plan for Middle Eastern contingencies. Yet in its recent analysis and planning, USAF has not taken full account of the potential contribution of Israel and the benefits of such cooperation, as well as the implicit costs of non-cooperation, are neither well-studied nor well-understood.

In fact, Israel has already developed a cooperative military relationship with the United States from which USAF has derived considerable benefit. In recent years, this has included Israel's provision of combat data on the performance of American and Soviet systems in the 1967 Six Day War, the War of Attrition, and the 1973 Yom Kippur War. Some data gleaned from the 1982 Lebanon campaign has already been provided by Israel and it has offered to do more. This data is worth a great deal to USAF because the operation of weapons under battle conditions often differs importantly from the assessments of military intelligence and from the results of tests and simulations conducted "on the village green". Israel has provided USAF with captured Soviet equipment, post-combat damage assessments, performance data, electronic intelligence and other war evaluation information and all of these have had an important, though often indirect, impact on USAF expenditures of billions of dollars for research and development and acquisition.[1]

Beyond this, the Israeli Air Force (IAF) has indirectly assisted USAF by proving the superiority of American aircraft over both Soviet fighters and Soviet air-defenses. The IAF's successes against the Syrians during the 1982 Lebanon war, in which over 80 Syrian MIGs and 30 surface-to-air missile sites in the Bekaa Valley were destroyed at the cost of a single Israeli aircraft, dramatically exceeded the expectations of American experts (and probably Soviet observers as well). USAF gains from this because Israel has demonstrated the vulnerability of the Soviet air-defense system. In the European theater, the Soviets depend on a MIG-21, -23, SAM-2, -3, -6, -8, -9, ZSU-23 air defense combination only marginally different from the Syrian air defense array that the Israelis defeated. The Soviet Union will therefore now have to devote large financial resources to replacement and renovation of the systems which have proven vulnerable.

This, in turn, diverts Soviet military expenditures from force expansion to force replacement, from offensive systems to defensive ones. It is worth noting that the Soviet Union spends more on surface-based air defense alone than it does on its entire "Strategic Rocket Forces" (land-based nuclear weapons). If expenditures on interceptors are added, Moscow spends more on combined air defense than on its entire Navy,[2] so renovation will be costly.

The military result of Lebanon is thus a huge implicit gain for USAF, in undermining the value of tens of billions of rubles in Soviet air defense expenditure.

However, these examples of the past value of Israel to USAF, while significant, are limited in comparison with the potential contribution that Israel could make to the missions and requirements of the Air Force in the Persian Gulf, the Middle East, and the eastern Mediterranean. Until now, however, these opportunities have not been recognized. Indeed, Israel has been virtually excluded from USAF planning for access arrangements and defense cooperation in the Middle East because of a belief in the minds of many responsible officials that the political costs of cooperation with Israel would outweigh the strategic gains and economic savings which could be achieved. This consensus against cooperation with Israel, however, is based more on intuitive impressions and casual discussion than hard analysis. In fact, no systematic effort has been made to draw up a balance sheet of the costs and benefits of cooperation with Israel compared to alternative means for achieving USAF objectives, nor have the intuitive political objections to cooperation with Israel been subject to close scrutiny.

In a recent publication, we presented a cost/benefit analysis and comparison of alternatives on the subject of prepositioning materiel in Israel for the U.S. Army.[3] In what follows, we will present such comparisons for the requirements of the U.S. Air Force in the Middle East, examining the potential for utilizing Israeli air bases and airpower, Israeli aircraft maintenance facilities and—in a more detailed case study—jet fuel prepositioned in Israel. In the concluding section we deal with the political objections to cooperation with Israel and argue that they provide insufficient reason for overlooking the one reliable strategic asset available to the United States in the Middle East.

POTENTIAL ISRAELI CONTRIBUTIONS TO USAF

The current Defense Guidance instructs the Services to make maximum use of Host Nation Support,[4] in their efforts to project American power abroad. Israel is particularly well-suited to assist USAF in this way because of its ideal geo-strategic location at the Middle Eastern crossroads, its sophisticated basing infrastructure, its advanced maintenance facilities and—in the last resort—its powerful Air Force. The "menu" of potential forms of Israeli support to USAF is therefore substantial, covering areas of need for the Military Aircraft Command, the Strategic Air Command and the Tactical Air Command.

i) Air Bases and Air Forces

A Persian Gulf or Middle Eastern contingency requiring the prompt introduction of the ground force component of the Rapid Deployment Joint Task Force (RDF),[5] would place a heavy responsibility on the Military Airlift

Command to mount an enormous airlift over intercontinental ranges. Under present arrangements, the strategic airlifters operating out of the Continental United States—C-5s and C-141s—would have to refuel over the Atlantic, transit the Mediterranean and off-load the troops and equipment at staging areas in the Middle East. As they reach the eastern Mediterranean, these transport aircraft, upon which the viability of any RDF operations so crucially depends, would be potentially vulnerable to interdictory attacks by Soviet-allied or Soviet-manned interceptors operating out of Syria and Libya. Since USAF lacks a strategic escort capability, it will have to deploy its tactical fighters to provide deep air cover over the eastern Mediterranean and secure the air lines of communication. For this purpose, USAF will need access to an air base on the eastern Mediterranean littoral.

Moreover, in the contingency of a Soviet invasion of the Persian Gulf via Iran, which is the canonical scenario for Middle East defense planning, USAF will also be required to sustain heavy air-to-ground interdictory raids against Soviet armored columns moving through northern Iran and the Zagros mountains. This effort to slow the Soviet advance, pending the arrival of U.S. ground forces in the region, and to drive up the cost of a Soviet offensive, will require the use of the Strategic Air Command's B-52Hs, carrying conventional munitions, as the main "workhorses".[6] These aircraft require runways which are unusually wide, long and capable of supporting heavy loads, such that relatively few of the world's airfields can be employed for take-off and landing. In addition, as General Richard Ellis, former Commander in Chief of SAC, has noted, "B-52s seem to have a stigma" and many countries are reluctant to provide basing for them.[7] According to the press, airfields in Diego Garcia and Morocco will be available for RDF B-52 use. However, the distances separating these sites from the presumed target area in northern Iran are quite substantial, and reliance on them would severely limit the number of sorties that could be flown, while placing considerable stress on "strategic projection force" operations.

Israel and Egypt possess air bases which are both closer to the theater than Diego Garcia and Morocco for B-52 operations, and well-located for escort duties and combat air patrols over the eastern Mediterranean. However, between the two alternatives, arrangements in Israel could more reliably be counted upon for availability in a wide range of crisis contengencies. Moreover, there is a significant threat of sabotage to B-52s and tactical fighters based in Egypt emanating from fanatical Muslim fundamentalists—a threat not present in Israel. Prime Minister Begin has announced his country's willingness to host such a USAF presence and has even indicated a readiness to build a special runway at one of the new Israeli air bases strictly for American use.[8]

Such access arrangements could also be imporant for a number of other contingencies in the Mediterranean, southern European and Southwest Asian

theaters. Tactical fighters could operate out of Israel in defense of the Suez Canal (whose availability to the U.S. Navy and the sealift lines of communication might be crucial) and against Syrian and Libyan bases to deny them to Soviet air and airborne forces. Reconnaissance aircraft could use Israeli bases for their assignments in the eastern Mediterranean. These bases could also act as a fall-back should the Military Airlift Command discover that its other access and staging arrangements had suddenly become unavailable in a crisis. Nevertheless, the American response to Israel's several offers to negotiate USAF use of the new air bases in the Negev has been negative.

In addition to basing privileges, USAF could also gain from closer cooperation with the Israeli Air Force (IAF). The IAF could play a role in fulfilling USAF requirements by flying deep air cover and reconnaissance missions over the eastern Mediterranean. Indeed, given USAF's limited resources, coordination with the IAF would probably be essential to defend the airlift routes, regardless of political considerations. Prime Minister Begin made such an offer in a meeting with journalists in Washington in September 1981,[9] but it was not accepted by American officials. Nevertheless, Assistant Secretary of Defense, Francis "Bing" West, has since stated that he considers insuring a secure line of communication in the eastern Mediterranean the principal area where Israel might play a role in defense of the Persian Gulf.[10] Closer coordination of this kind, manifested in joint exercises, would also strengthen the West's ability to deter Soviet military action in the region because Soviet planners would then have to factor in their calculations the considerable power and effectiveness of the IAF.

ii) **Aircraft Maintenance Facilities**

One area of cooperation between USAF and Israel which holds great potential is Israeli depot-level maintenance of tactical fighters and attack aircraft. Both USAF and the IAF operate F-15s, F-16s and F-4s, and Israel already possesses sophisticated overhaul and repair capabilities for the airframes, engines and myriad subsystems and components that are critical to the operational readiness of these aircraft.

USAF has already begun to tap Israel's existing capability in this regard through contracts awarded to several Israeli firms for the maintenance of transport aircraft and the overhaul of fighter components.[11] These contracts were awarded solely on the basis of commercial considerations—Israel's costs were competitive and its quality standards and delivery schedules met USAF's requirements. However, USAF has so far avoided overhauling entire fighter aircraft in Israel, although it has awarded such contracts to Spanish and Greek firms.

It would nevertheless be a relatively simply matter for USAF to draw on the existing infrastructure in Israel to do this work on its fighter and attack aircraft. The overhaul and maintenance lines for Israeli F-4s, F-15s, and F-16s

are already operational and conform to U.S. Department of Defense military specifications. The personnel working on these lines have been trained to DoD quality standards. USAF has a contracting office in Israel and, under an agreement signed in 1979, Israel has been granted the right to compete with American companies for USAF overhaul and maintenance contracts.

Contract maintenance of USAF fighter and attack aircraft by Israel in peacetime would have several advantages for USAF's wartime Middle Eastern requirements. No such capability exists elsewhere in the Middle East so, by expanding Israel's existing system, USAF would be able to establish its only feasible regional maintenance infrastructure. It would also gain from Israel's expertise as the country with the finest record for combat repair during conflict. In addition, arrangements could be made to boost the maintenance capability in a crisis by drawing on the IAF's matching capability and its inventories of spare parts.

Most importantly, USAF's operational readiness could only benefit from access to Israeli maintenance facilities. The availability of these additional facilities could help raise USAF operational readiness rates.[12] Although USAF and IAF definitions of operational readiness differ, some idea of the capabilities of the Israeli facilities can be gained by a consideration of IAF operational readiness rates: usually above 90 per cent, and in the case of the F-16s flown in Lebanon, almost 100 per cent.[13] The "down time" of U.S. fighters and attack aircraft represents a tremendous "hidden cost" because, hypothetically, to have available 100 operationally ready aircraft at today's readiness rate, USAF would have to deploy in theater an additional 54 aircraft costing about $11.4 billion.

Thus additional contract overhaul and maintenance by Israel could increase the effectiveness and reduce the cost of USAF missions where large numbers of aircraft are required. It could also provide USAF with a highly reliable and efficient regional support infrastructure for wartime contingencies in the Persian Gulf and Middle East. Such contracts would represent a relatively low-level form of cooperation to which it would be difficult for others to object. They could also be instituted for a trial period and cancelled if the result was not satisfactory. Israel's maintenance facilities, however, would need to be expanded to meet USAF's requirements and this is something which could not be implemented if we wait until the crisis is upon us.

Another area of possible cooperation with great potential, but about which almost nothing has been written elsewhere, would be Israeli help to correct the severe fuel supply shortages the Tactical Air Command would face if called upon to support the Rapid Deployment Force in a Persian Gulf war. Using this example as a case study, the next section provides a detailed illustration of one of the current planning challenges before the United States Air Force and how cooperation with Israel can provide a better solution than other arrangements.

Section II
An Example: Logistical Support for RDF Tactical Airpower

Introduction

The Rapid Deployment Force is being designed to counter the basic contengency of a Soviet invasion of the Persian Gulf littoral from the Transcaucasian and Turkamen regions of the U.S.S.R. According to current Department of Defense Guidance, the tactical Air Force component required to meet this threat would be considerable, comprising five to ten Tactical Fighter Wings (TFWs), or from 360 to 720 fighters.[14] The role of tactical airpower will be particularly important during the opening phase of the war, because most of the ground forces will take a considerable time to arrive from distant locations, and the Air Force, which is more rapidly deployable, will have the principal burden of slowing the Soviet advance.

A force of five to ten TFW's will require prodigious quantities of JP-4 aviation fuel, without which it simply will not be able to operate. Fighter aircraft are high energy consumers typically requiring one gallon per mile on average. A reasonable estimate of USAF's requirements for the RDF would be three million gallons per day just for tactical aircraft.

The bulk of this requirement must be *prepositioned in the region* to supply these aircraft for the first thirty days after they are deployed. The alternative of airlifting fuel from the continental United States (CONUS) would vastly exceed the current and planned capabilities of the aerial refueling fleet; fuel transported from CONUS by sea would not be available for the first month of fighting.

USAF prepositioned fuel storage facilities currently planned for the region, however, will satisfy no more than 15-30% of the requirement for the first thirty days. Host Nation Support, out of "domestic" stocks, if available at all, could supply no more than an additional 20%. *There is thus a shortfall of at least 50% of the fuel requirement for the Tactical Air Command in the first 30 days of the canonical planning scenario for conflict in the Persian Gulf.*

Correcting this deficiency by procuring strategic airlifters to transport fuel from CONUS would be prohibitively expensive. The only practical solution is the construction of additional storage on land bases in the region. Obviously, such bases must be secure from air and commando attacks. And because fuel is the *sine qua non* of USAF operations, such bases must be reliably available to the United States in the event of a crisis.

While some additional storage in Oman, Egypt and other currently planned prepositioning sites is possible, considerations of physical security and political reliability, as well as the limitations imposed by host governments, point to the need for additional locations in this most volatile and unstable region of the world.

Israel is the only country in the region which can be relied upon to be there when USAF needs it. Israel's formidable air defense capability makes fuel sites there far more secure than most other potential sites. And Israel's geographic location gives it a substantial cost advantage over most other

sites. In the more detailed analysis which follows we show just how critical the shortage of prepositioned fuel is and why prudent planning would point to Israel for expanding fuel storage facilities.

THE IMPORTANCE OF AIRPOWER

There are presently some twenty-two Soviet divisions on the northern border of Iran, within 900 miles of the Persian Gulf and the West's oil supplies.[15] Most of the U.S. Rapid Deployment Force, by contrast, is based over 8,000 miles from the Persian Gulf in the United States. In the time that it would take the Soviet Union to occupy strategic locations in the Gulf with three armored divisions, the United States could deploy about one marine battalion and one airborne brigade to the front. Put simply, the ground force component of the RDF cannot hope to match the forces of the Soviet Union in the early stages of a Persian Gulf conflict.

This places a heavy burden on the U.S. Air Force which, by contrast, can deploy its fighters and bombers to the Persian Gulf theater in a matter of hours and days. These aircraft will have the crucial responsibility of interdicting and impeding the movement of Soviet forces as they advance through the narrow passes in northern Iran and through the Zagros mountains. They will have to compensate in the air for the absence of artillery and armor on the ground. They will also constitute an indispensable element in the defense of beachheads and forward positions to which the U.S. ground forces can deploy, and in protecting forward air bases and other initial staging areas from enemy interdiction.[16] In qualitative terms, dependence on air power makes good sense because American technical superiority over the Soviet Union is most pronounced in the field of fighter bombers.[17] Moreover, from a terrain perspective, dependence upon air power takes greatest advantage of the particular conditions in the Persian Gulf and Arabian Peninsula which assist air-to-ground interdiction.[18]

Thus, in attempting to counter the natural advantages of Moscow's geostrategic position in a Gulf conflict, the RDF will have to depend upon air power as both its only available opening response, and as its most effective response. For these reasons the Carter Administration assigned five Tactical Fighter Wings (TFWs) to the RDF and the Reagan Administration, in its 1982 guidance, ordered USAF to assign an additional five TFWs. In all then, some 720 aircraft are considered by defense planners to be required for tactical operations in the Persian Gulf.[19]

USAF's Fuel Problem in a Gulf War

Although the aircraft and crews can be moved to the region in short order, ensuring that the fuel required by the aircraft for high-intensity operations is available when needed will be a daunting endeavour. Even though the Middle East is the source of much of the world's crude oil, refined jet fuel is not likely

to be available in such large quantities from indigenous regional sources and the fuel must therefore either be transported to the region at the time of need or prepositioned before a crisis.

The normal means of moving large quantities of fuel is by sea, but even assuming that the Suez Canal can be used, fuel sealifted from CONUS will not be available in the theater for the first thirty days of combat.[20] During this period, operation of five tactical fighter wings will consume about 54 million gallons of JP-4 jet fuel; ten TFWs will require 108 million gallons, not to mention the requirements of SAC B-52s and other aircraft.[21] USAF recognizes that it faces "major inadequacies in the area of fuel facilities requirements."[22] and has decided to construct prepositioned storage sites at airbases in Oman and Egypt which, when completed, will provide 18 million gallons for Tacair purposes, as in Table I. But these facilities will satisfy only a third of the requirement, for a five TFW force and less than a fifth of that for a ten TFW force.

TABLE I

The Tactical Air Fuel Deficit[23]

		(,000 gallons) FIVE TFWs	(,000 gallons) TEN TFWs
FUEL REQUIREMENT (first 30 days)		54,000	108,000
TOTAL PLANNED STORAGE:			
Oman	12,108		
Egypt	5,460	17,640	17,640
DEFICIT		36,360	90,360
DEFICIT AS % OF TOTAL REQUIREMENT		67.3%	83.7%

If five to ten tactical fighter wings are to be available for Persian Gulf contingencies, major additional steps will be required to correct this fuel deficit. The range of possible solutions theoretically includes sealift, airlift, prepositioning on ships,[24] and prepositioning on land, but a comparison of these alternatives has led the Air Force to conclude that the only satisfactory option for the first month of the war is to preposition fuel on land in the Middle East.[25]

Sealift—as already noted—would take approximately thirty days with access through the Suez Canal and much longer without it; this would impact only after the crucial first month of fighting. *Airlift* of fuel from CONUS would be impossible[26] because the airlifters themselves would require more fuel than they could carry to traverse the great distance from the U.S. to the

Persian Gulf. Even if it were possible, it would require up to 332 KC-10's at a procurement cost of about $25 billion.[27] Fuel *prepositioned at sea* would be vulnerable to enemy strikes as it moved through the Straits of Hormuz and the confined waters of the Persian Gulf; targeting tankers would be the best way to ground the U.S. Air Force early in a war. For these reasons, among others, USAF doctrine requires that fuel be *prepositioned on land.*[28] For Persian Gulf contingencies, these prepositioning sites would need to be located in the Middle East region itself because ferrying the fuel from more distant sites, such as the Azores, Diego Garcia or Kenya, would be prohibitively expensive (see Appendix).

A BASING STRATEGY FOR RDF TACAIR FUEL

If fuel is to be prepositioned on land, where should the sites be located? In confronting the task of securing fuel storage locations in the Middle East, defense planners now have the opportunity to build a basing system for Persian Gulf contingencies from the ground up, since very little by way of access arrangements has been inherited from the past. This situation is quite different from Europe and the Far East, where today's basing system evolved largely from the results of the Second World War and earlier arrangements.

The fact that the region is almost a blank slate as regards access arrangements should be regarded as an opportunity as well as a burden, since the absence of past commitments leaves open the possibility of an integrated strategic approach to the problem, unfettered by tradition and vested interests. It is possible, at least in theory, to develop a coherent basing strategy to guide diplomatic negotiation and military construction activities, laying the foundations according to a rational plan. Choosing the right basing strategy for fuel is not an issue that grips the imagination as much as, say, speculating on what form a Soviet move might take. But fuel is the lifeblood of a tactical fighter force, without which it cannot operate, and a fuel basing strategy is, in fact, one of the most important challenges facing the RDF.

A strategic plan begins with an operational requirement: in the current case the necessity to preposition fuel for USAF tactical air missions in the region. It then compares systematically the options available to meet the requirements, including considerations of cost, effectiveness, and risk, to arrive at a preferred option or mix of options.

The concepts of *risk* and a *mix of options* have particular importance in a basing strategy for RDF tactical air fuel. The volatility and unpredictability of the Middle East emphasizes the risk factor; two of the four countries in which we have "access arrangements" today—Somalia and Egypt—were Soviet allies ten years ago, while two of the Soviet Union's main bases—Ethiopia and Afghanistan—were pro-Western or neutral at that time. It usually takes five to seven years to produce a completed basing facility, from inception of planning to full operational capability,[29] but the political orientations of many

states in this region are not visible over so long a planning time horizon. Of the 49 major USAF installations which existed on foreign soil in 1972, only 27 remained under Air Force control a decade later.[30] In deciding the appropriate locations for fuel storage facilities, therefore, the USAF Logistics Command must plan against the major political uncertainty that bases under construction today might not be available when we actually need them.

In addition, a basing strategy must contend with the physical vulnerability of fuel storage facilities to hostile action by the Soviet Union, its allies or dissidents adopting violent measures. Many of the sites contemplated at present are within striking range of enemy bases, or could be targets of commando or terrorist actions. The high flammability and bulkiness of fuel makes tank farms excellent targets for bombers, and the Allied experience in World War II demonstrates the drastic effect that fuel deprivation can have on enemy fighter capability.[31]

These risk factors also impact on cost, in two ways. First, a vulnerable site that must be protected by dedicated U.S. fighters and SAMs is considerably more expensive than one which is beyond the range of the enemy threat or can be defended by the host nation. Second, a site at a politically insecure location is implicitly more expensive than one in a reliable country, since the entire investment would be worthless if use of the facility were denied when it was needed. The principle that a low risk site is a less costly site is, as we will see, one of the major advantages of Israel in comparison with other prepositioning opportunities available to USAF in the region.

In deciding upon the most appropriate locations for fuel storage facilities today, a basing strategy must plan against political and site security risks over an extended time horizon. The NATO logistics system, which evolved largely from the conditions that existed after the Second World War rather than a coherent basing plan built from the ground up, today suffers from a maldistribution of fuel.[32] We have, in the Middle East, the opportunity to build a rational basing system that will last for many years according to a more rational plan.

A key element of this plan should be a strategy to hedge against the political and site security risks by distributing critical logistic support facilities at a number of locations in different countries, i.e., a mix of options rather than putting all our eggs in one basket. This will reduce the likelihood that unfavorable political changes or successful enemy strikes can deprive the tactical fighter force of fuel. The heart of a basing strategy, then, is to choose from among the access sites available today a basing mix that puts fuel where we will need it while hedging against risk.[33]

Hedging Against Risk—Israel as a Fuel Site:

In pursuing this basic mix, defense planners have a range of prepositioning locations in the Middle East to choose among: air bases in eastern Turkey and

northeastern Saudi Arabia provide possible close-in alternatives, while Somalia, Egypt, Oman, Jordan and Israel are possible regional locations. In choosing a mix of these sites, a strategy which sought to hedge against risk would require at least one location which provided USAF with the certain knowledge that prepositioned fuel would be available when needed, regardless of the circumstances. In the reasonable worst case, when other sites became unavailable (due either to enemy interdiction or political contingencies) this "fall-back" site would be capable of providing the essential requirements for keeping USAF's tactical air power operational. In the best case, fuel from this site would be available to complement stocks prepositioned elsewhere, giving USAF a valuable margin of flexibility.

Israel is the ideal location for such a strategic reserve because it offers the crucial combination of physical security, political reliability and cost-competitiveness.

Jet fuel stored in Israel would enjoy the protection of Israel's formidable air and ground defenses. Israel's Air Force is recognized as one of the most capable in the world and its primary task is to ensure that the country's airspace is impenetrable. The IAF has repeatedly demonstrated its superiority over neighboring Soviet-equipped air forces, and even over Soviet-piloted aircraft.[34] Israel's thirty-year experience in combatting guerrilla operations makes it equally capable of ensuring perimeter security. In short, Israel is eminently qualified to provide a secure defense umbrella over the fuel site and it would do so as a natural extension of its own defense effort.

Israel also provides a politically secure fuel site. Israeli governments harbor no sensitivities toward overt strategic cooperation with the U.S. because such policies enjoy the overwhelming support of the people of Israel. Israelis share with Americans a common culture, common values and common democratic institutions. A strong alliance with the U.S. is also the central tenet of Israel's foreign policy—regardless of the coalition in power. This stems from the basic convergence of American and Israeli strategic interests which has created an "organic" alliance: one based on the innate values of the two peoples rather than a temporary convergence of interests. Accordingly, USAF can have confidence that any arrangement made with one Israeli government regarding prepositioning of fuel will be kept by its democratic successors.

This combination of political and physical security is particularly important when compared to the combinations offered by the other Middle Eastern states prepared to offer their facilities to the U.S. All of these countries are physically vulnerable to enemy attack or internal sabotage. None of their regimes can be said to have strong popular support, and in no Arab country does public opinion endorse a military alliance with the United States. Most of the Arab states profess nonalignment as the foundation of their foreign policies. All are extremely sensitive to the charge of cooperating with American "imperialism," and most seek to limit their involvement accordingly.

While some are more stable than others, none can be relied on in all circumstances to make facilities on their soil available to USAF. In these circumstances, as we shall see, none of the alternatives to Israel can qualify as a high-confidence "fall-back" option for storing jet fuel.

COMPARING OTHER SITES TO ISRAEL

i. Turkey

Turkish authorities have consistently refused to provide basing and access arrangements for Persian Gulf contingencies in which the United States might become engaged, in spite of repeated entreaties from American officials. In the words of Defense Minister Haluk Bayulken, "It is out of the question for Turkey to take part in a rapid deployment force being established by the U.S."[35]

As the only Moslem member of NATO, Turkey is particularly sensitive to domestic and regional opposition to American military intervention in the Persian Gulf. Ankara is depending on Arab states, including Libya, to support its economic recovery; the regime is sensitive to domestic opposition from Islamic fringe groups, the strong Turkish left, and Kurdish dissidents; and it is attempting to pursue a policy of accommodation with the Soviet Union, with which it shares a long border.

Turkish sites are also vulnerable to air strikes from the numerous bases in the southern U.S.S.R.,[36] against which Turkish air defenses could provide only token resistance. In addition, while Turkish access arrangements would be useful for contingencies in northern Iran and the Soviet Transcaucasus, contingencies elsewhere in the Gulf would require flying through potentially hostile airspace over Iraq, Iran, or Syria, across distances which are in any case beyond the combat radius of tactical aircraft. Aerial refuelling from Turkish bases would be still more vulnerable.

This is not to argue that fuel stored in Turkey would not be valuable for certain contingencies. If Turkey lifted its opposition, fuel at bases in the eastern part of the country could be particularly important in a northern Iranian contingency. But the political uncertainties, site vulnerabilities, and contingency limitations rule out principal reliance on Turkish bases for fueling RDF tactical airpower.

ii. Saudi Arabia

Saudi Arabia's Dhahran air base is, in theory, an ideal location for fuel prepositioning. From here, tactical fighters working in conjunction with aerial refuellers could fly missions across the Persian Gulf and Iran to the borders of the Soviet Union and Afghanistan. However, Saudi Arabia has consistently rejected American efforts to acquire basing privileges and has opposed the concept of an American presence in the Gulf, arguing that such a presence

could provoke the Soviet intervention it is designed to prevent. The Saudi regime is particularly sensitive in this regard because it must contend with the anti-American hostility of all its important neighbors.[37] These pressures serve to heighten an already profound sense of insecurity generated by the combination of vast oil wealth and a grossly inadequate defense capability. The result is a deeply ingrained policy of placating the bear by keeping the bear-keeper at bay.[38]

For the Saudis, therefore, American intervention is an option of last resort. They want an American "over the horizon" capability to be there when needed, but they will not host an overt presence beforehand. USAF planners could surmount this problem—and indeed may already have done so[39] by entering into a covert arrangement for Saudi Arabia to "overbuild" jet fuel storage facilities at some of its eastern air bases. But given the political crosspressures on Saudi Arabia, these cannot be considered high-confidence arrangements.[40]

They could be further jeopardized if the Saudi regime itself becomes destabilized over time, as the full impact of the contradiction between rapid modernization and rising Islamic fundamentalism begins to be felt. An increasingly threatened regime cannot be expected to risk criticism by cooperating with the U.S.; indeed, it might dramatically reduce such cooperation exactly to placate and appease growing opposition. The tacit alliance with the United States, though it may reduce the risk of invasion, increases the more visible threat of subversion, and too close a relationship with the U.S. may raise the specter of an upheaval like that which occurred in Iran. Politically, Saudi Arabia cannot afford to be, or be seen to be, the linchpin of U.S. military capabilities in the Persian Gulf.

Finally, facilities in eastern Saudi Arabia are vulnerable to Soviet or Soviet-allied air strikes from bases in South Yemen (PDRY) and from bombers operating out of the six new Soviet airbases constructed in southern Afghanistan,[41] against which Saudi Arabia's own air defenses are not likely to be effective. Sites elsewhere in Saudi Arabia could be vulnerable to commando operations.

iii. Oman

On the face of it, Oman appears to be another attractive prepositioning site. Although its air bases are some distance from the primary theater of operations, aerial tankers could operate out of them in support of Tacair mission in the Persian Gulf. Sultan Qaboos is more willing than Saudi Arabia to be overtly involved with RDF force projection planning. For this reason, USAF has already decided to preposition some jet fuel in Oman. But facilities in the Sultanate face problems of physical vulnerability and political reliability and while they are an important component of a basing mix, they cannot substitute for a "fall-back" arrangement.

The storage tanks at Masirah, Seeb and Thumrait are all within strike-range of Soviet medium-range bombers operating out of southern Afghanistan. They could also be hit by aircraft operating out of Soviet-built air bases across Oman's western border in the PDRY (South Yemen). The facilities at Thumrait, in particular, are less than ninety miles from the PDRY border. The Omani air force is incapable of providing an adequate air defense, and the Sultan is not prepared to have USAF deployed on Omani soil in peacetime.[42] Thumrait would also be accessible to commandos or guerrillas operating out of Aden.[43]

The stability of the Sultan's regime also raises questions about the wisdom of over-dependence on storage facilities in his country. Qaboos has no son and there is no clear hierarchy which would provide for orderly succession. Like other producers in the Gulf, Qaboos faces the problem of meeting the rising expectations of a people only recently reconciled to his rule. Unlike the other oil producers, however, Oman's oil reserves are limited and, at a time of falling oil prices, his lavish expenditures and ambitious development plans cannot be sustained for long. In this context, the Sultan's reliability might also become questionable. His overt cooperation with the U.S. has placed Oman in an exposed position among the Gulf states. He has already come under heavy pressure from the Gulf Cooperation Council to deny Oman's facilities to the U.S.[44] Kuwait, in particular, has mounted a campaign to change the Sultan's mind.[45] Meanwhile the overt hostility to the United States expressed by neighboring PDRY and Iran provides a constant reminder of the dangers involved in his present course. The Sultan has resisted these pressures so far, but in more dire circumstances he might well be persuaded to change his orientation.

On balance, Oman cannot be considered a high-confidence, secure and reliable location for the prepositioning of jet fuel. A basing strategy which sought to spread the risks would include Oman but avoid too great a dependence on it.

iv. Egypt

Prepositioning sites in Egypt will be less vulnerable to enemy air strikes than those in Turkey, Saudi Arabia and Oman. The RDF facilities in Ras Banas are beyond the range of Soviet aircraft operating out of anywhere but Libya, and Egypt's own refurbished air force would probably be capable of dealing with any threat from that quarter. However, given Ras Banas' location on the Red Sea, facilities there do face a serious threat from naval commando operations. Moreover, sabotage operations by internal dissidents also presents a formidable problem—a fact which must have been driven home to the then Commander of the RDF, Lt. General Robert Kingston, as he watched from the reviewing stand the assassination of President Sadat by Muslim fanatics. Nevertheless, USAF planners have already decided to store